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Published to advance the Science of cold-blooded vertebrates

RECORD OF FISHES AT ORIENT, LONG ISLAND, IN 1918.

Below is a partial record of the notes collected by the writer in the summer and fall of 1918 in the waters of the Sound, Gardiner's and Long Beach Bays. Records are from the Sound unless otherwise stated. Dimensions are in total lengths. 96 species were recorded during the season, and the year was beyond the usual in interest.

Petromyzon marinus. Sea Lamprey. Two small adults, each 6 inches in length, on May 6 and 17. On June 18, a 14-inch specimen was caught that was a general blue-black color. This coloring is an exception in this species taken here.

Mustelus canis. Smooth Dogfish. First of the season were three large adults on May 23, and the last November 25 (young). A 51-inch adult was taken on November 18 with a large number of spined dogfish. Adults of this shark are unusual after mid-October, although the immature individuals may be frequent till early in December.

Carcharhinus obscurus. Dusky Shark. Between September 17 and October 14, six specimens were captured. All were young, the smallest 22 inches and the largest 32 inches long. The color is slaty-blue

above and white below. One of these was forwarded to the American Museum, where it was agreed with the writer that they appeared to be the young of *C. obscurus*. However, it was suggested that the very young of *C. milberti* may differ enough from the adult to include these young from Orient.

Squalus acanthias. Spined Dogfish. None were seen till November 7, when the great run of immature bunkers arrived, and 86 were counted. The record catch of nearly 600 was on November 25; with 300 the day before. Previous to and including this date all were pregnant females, giving birth to young in boat or on land. The largest individual captured was 38 inches in length. No independent young was taken during any part of the season, as in 1917. A few males began to arrive on November 26. One was taken on November 20 with the snout gone nearly to the eyes, it was slightly concave in the center, and the skin, to all appearances, was the same as the rest of the body. This, if cut off, was a miracle that the fish did not bleed to death before the wound healed. These are the wolves of the sea to the trap fishers. They can completely ruin the strong tarred netting in a few days. Much of the chafing is caused by the spines as the shark rolls in the webbing. Occasionally they are noted without either spine, both being worn below the surface of the body. Two adults on June 27 is the latest Orient record for the adult.

Raja eglanteria. Clear-nosed Skate. First June 15, and taken daily thereafter till September 28. The last October 14. Is the most common skate during the summer months. The largest specimen obtained was 26 inches in length, with a weight of 11 lbs.

Acipenser sturio. Common Sturgeon. One 24 inches in length on November 26 was the only record at Orient for the year. One weighting 100 pounds

was taken near Greenport in September. It is now an extremely rare species in this section and nearly all of those taken are young.

Opisthonema oglinum. Thread Herring. This is a very unusual fish in the local waters. Two specimens captured in July, one on the 18 and one on the 29, are the first examples in a number of years. The two here mentioned are $8\frac{1}{2}$ inches in length and taken from Long Beach Bay.

Brevoortia tyrannus. Menhaden; (Bunker). In Copeia, No. 57, the writer recorded the unusual abundance of young bunkers during the summer and autumn of 1917. There was a similar occurrence of young the fall of 1918, although they did not occur in the summer, as the year previous. The fall of 1917 was remarkably cold and rough, while the fall of 1918 was exceptionally mild. The two extremes give us a very interesting record. In 1917 they reached their greatest abundance on the 26th of October, while in 1918 the maximum of abundance was not reached till the 21st of November. On that date approximately 500,000 were taken, averaging 5 inches in length; a few of the largest reaching 8 inches. They first arrived from the north, after a total absence of several weeks, on November 7. They were still common on December 1, and when the traps were removed on the 14 of that month they were present in numbers. The last adults were recorded on November 28.

Anchoviella brownii. Striped Anchovy. The status of this species heretofore reads as infrequent occurrence of single individuals. The new data for 1918 is: First taken June 25, one 6 inches in length. On September 12 at least 50 were taken from one trap, $5\frac{1}{2}$ to 6 inches in length. October 26, one $6\frac{1}{4}$ inches in length. This is the largest specimen recorded near Orient and also the latest date for its capture.

Tylosurus marinus. Billfish. May 21, one 16

inches in length. On May 27 a specimen 27 inches in length, with a weight of 4 lbs. was taken. The last, which is the latest Orient record, was taken on November 20. The species was unusually common during the month of October, both in the adult, or larger form and the very young; solid green masses of the latter were observed of fish 1 to 2 inches in length.

Hyporhamphus roberti. Halfbeak. Several 12½ inches in length were recorded on July 15. The last, also the latest date for the fish at Orient, was on November 7, one of 10 inches.

Sphyraena borealis. Northern Barracuda. The following records: October 16 to 23, three specimens, 7 to 12 inches in length.

Mullus auratus. Goatfish. This species appears to be only a fall visitant and is more frequent in the bays than in the Sound. One on September 9 from Long Beach Bay is the earliest date for its capture here. The last was taken on November 7. The largest specimen known from the locality, 6½ inches in length, was taken in the Bay near East Marion by Mr. John King on October 14. In this specimen there were three distinct longitudinal yellow bands below the lateral line and one indistinct yellow band above the line.

Priacanthus arenatus. Big-eye. Five specimens of this rare species were obtained, as follows: October 14 and 24 (1); October 31 (2); November 7 (1). The smallest specimen is 3 inches in length and the longest 4½ inches, which is the largest specimen captured from Orient. This is a very beautiful thing when first taken from the water. The bright rosy-pink hue, with darker cross bands, soon fades to a reddish-gray, the bands becoming obscured. An hour after death they are hardly noticed from porgies of similar size.

Pomatomus saltatrix. Bluefish. The very young, measuring 1¼ to 1½ inches, appeared com-

mon in the Sound on June 27. July 15, large numbers of 2 inches and a few reaching $3\frac{1}{4}$ inches. August 2 some were taken 4 inches in length, while those of $1\frac{1}{2}$ were still common. The largest "snappers" school-up and enter the traps in the Sound between September 25 and October 15. Beyond that date they are gradually reduced in size toward the last of the season. On November 13, the last date it was recorded, none were over 4 inches in length and more of them 3 inches.

Palinurichthys perciformis. Rudder Fish. This is taken only at long intervals near Orient. The two records are the first in eight years. One October 1, 13 inches in length. One October 21, $13\frac{3}{4}$ inches in total length; $4\frac{3}{4}$ inches deep; $1\frac{1}{2}$ lbs.

Peprilus paru. Harvest Fish. This is another very unusual species in the region. Almost invariably two are taken at a time. It rarely occurs more than once or twice in a season. Two were taken on September 12, each $7\frac{1}{2}$ inches in length.

Seriola zonata. Pilotfish. It is interesting to note that whenever a shark is taken in our traps there are a number of these, young banded individuals, while only scattered ones are taken at other times. On the morning of September 26 when two young dusky sharks were trapped, not less than fifty pilotfishes were taken ranging from 6 to 8 inches in length. It is interesting to study these accompanying the sharks around in the trap a couple of feet beneath the surface, the pilots copying every turn of the sharks. On October 9 a specimen $11\frac{1}{4}$ inches in length was completely unbanded. This is the smallest one that the writer has taken without any trace of bands. The color of this is similar to larger unbanded ones, a uniform bluish-purple above, shading to grayish on sides, belly white. On October 25 a specimen of 10 inches retained full black bands.

Decapterus punctatus. Scad. From June 18

to late August there were numerous young, less than 2 inches in length, in the Sound. Specimens $2\frac{1}{2}$ to $3\frac{1}{2}$ were common there on September 12. On October 11, one 8 inches in length was taken; this is the largest example yet taken here.

Caranx crysos. Hardtail. Occurred fairly commonly. Appears to be only a fall visitant. The largest specimen recorded from Orient was taken on September 13; $21\frac{1}{2}$ inches long; $5\frac{3}{4}$ inches deep; weight, 4 lbs. Two others, one $19\frac{1}{2}$ and the third 10 inches were in the same trap. The usual size is 5 to 7 inches.

Alectis ciliaris. Threadfish. One on September 11.

Vomer setapinnis. Moonfish. This species was common from September 1 to October 10, all young. It was taken daily during that period, six to eight being recorded on some days. The most frequent sizes were one to $1\frac{1}{2}$ inches; the largest 3 inches; smallest, $\frac{3}{4}$ inch. Last was taken October 30. It is usually much rarer.

Chloroscombrus chrysurus. Bumper. Three records. September 12, one $7\frac{1}{2}$ inches in length, $2\frac{1}{4}$ inches deep. September 26, one 8 inches in length; $2\frac{1}{2}$ inches deep. The last specimen of $7\frac{1}{2}$ inches was on October 2. Occurs irregularly, September and October.

Scomber scombrus. Mackerel. Mackerel 10 inches in length were frequent early in December. The last were taken (nine) on the 13th. They were undoubtedly present longer, but the traps were too badly damaged to retain the wily mackerel.

Scomber colias. Chub Mackerel. (Big-eye). Adults of this species are uncommon near Orient; three were taken during the present year. Two on October 8, one $13\frac{1}{2}$ inches in length; $2\frac{3}{8}$ inches deep; 2 inches thick; weight 1 lb. The second specimen was

13 $\frac{1}{8}$ inches in length, weight $\frac{3}{4}$ lb. The third was taken on October 14, 13 inches.

Sarda sarda. Bonito. It is not often that this species is so common in waters near Orient. A few 17 to 20 inches in length were taken July 1. On September 9, young, 5 to 6 inches in length, were common. On and after September 23 till October 25, several hundred to a thousand, 8 to 12 inches in length were taken daily. They were common to the end of the first week in November and the last was on the 21 of that month, which is the latest Orient record. They enter the traps freely in daytime.

Scomberomorus cavalla. Sierra; (Serin). On September 21, two fine specimens, one 32 inches in length, 6 $\frac{1}{2}$ lbs. The other 30 inches. Another on September 23, 30 inches in length. It is the first record of its occurrence in twelve years. Rarely lives longer than ten hours confined in a trap.

Alutera schoepfii. Orange Filefish. Last on November 9, 6 inches.

Chilomycterus schoepfii. Spiny Swellfish. One October 28, 3 $\frac{3}{8}$ inches long. The smallest and latest record thus far recorded here.

Myoxocephalus mitchilli. Mitchill's Sculpin. One four inches in length on June 28, is the latest Orient record.

Hemitripteris americanus. Sea Raven. On October 15 a specimen 10 inches in length was taken that was a uniform bright golden-yellow; a very brilliant creature when first brought up. It was a female, the handful of eggs being bright yellow in color. The stomach of the fish contained several squids 5 inches in length. The usual color in the Sea Raven taken here is a dark reddish-brown, being yellow only on the under parts.

Cyclopterus lumpus. Lumpfish. On June 12, the latest date of it being taken near Orient, one was taken 19 $\frac{1}{2}$ inches in length; 11 inches deep; head 4 $\frac{1}{2}$ inches in length; weight, 9 lbs. A uniform lead-

color throughout; iris golden; pupil black. A female discharging roe in the boat, the beautiful rosy-pink mass filling a salmon can. Individual eggs were a delicate transparent pink.

Prionotus carolinus. Sea Robin. One 4¼ inches on December 3 is the latest record for the species near Orient.

Cephalacanthus volitans. Flying Gurnard. Last one taken on October 28, 7½ inches in length; this is the largest specimen yet collected in the locality.

Echeneis naucrates. Shark Sucker. One 38 inches in length on August 3; weight 1¾ lbs. A specimen is taken every year or two.

Pholis gunnellus. Rock Eel. One 2½ inches on June 13 is the latest record from Orient. Another 2¾ inches was taken on June 6. The first was taken in the fall, October 22. It was very common early in December, the average size being 3½ inches.

Phycis regius. Spotted Hake. (Ling). This species is usually less common than the other codlings; the present season was an exception to this rule. The species was very common from early in September till early in December.

Paralichthys oblongus. Four-spotted Flounder. Between June 3 and 26, fourteen specimens were taken in the Sound. The largest example was 14 inches, the others from 9 to 13 inches. Three of these were clearly unspotted. No others were taken from the Sound during the season. However, from October 24 to December 12, six specimens were taken from Long Beach Bay, ranging in size from 6 to 7½ inches in length. These were taken where the water at greatest flood-tide depth is only six feet.

Lophius piscatorius. Angler. One July 8, 4¼ feet in length.

ROY LATHAM,
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